

Ansgar Beckermann

WOULD BIOLOGICAL DETERMINISM RULE OUT THE POSSIBILITY OF FREEDOM?*

1.

I shall disclose the answer to the title question straight away, and the answer is “NO, it would not”. If it turned out that we really are neurobiologically determined beings, this result would not necessitate any change in our idea of humanity – it would not affect the idea that we are free and responsible human beings. Or at any rate, it would not do so under certain conditions of which I am sure that, as a matter of fact, they are satisfied. But let us first ask the question, “Whence the *opposite* conviction, according to which it would prove a disaster for our self-image and the idea that we are free and responsible beings if it emerged that everything we do, think or feel is completely determined by biological factors?”¹

Let us assume that I am attending a gathering of nice people. I am asked by my hostess whether I should like another glass of red wine, and after a brief pause of reflection I answer “Yes, thank you”. If I am neither tipsy nor an alcoholic, people will say that my reply was voluntary, it was a free action. I have given a completely deliberate answer to the question asked by my hostess. I could have decided otherwise; no one has put me under constraint; and hence I have been free and accountable in my way of acting.

On the other hand, ultimately my utterance of the words “Yes, thank you” consisted in the generation of specific sound waves through certain movements of my vocal cords, my tongue, and my lips while exhaling. And as far as we know, there is a complete physiological explanation of

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¹ For considerations that are quite similar to those put forward in the present paper, see the chapter “Free Will” in Simon Blackburn’s highly commendable introduction to philosophy, (Blackburn 1999), as well as Peter Bieri’s recent book (Bieri 2001). As I read the former book only after having written this paper and as the latter was published only after its completion, I have gained the impression that the situation is one in which a number of philosophers have independently of one another arrived at similar results. Perhaps this may be interpreted as evidence for the view that these results are not completely absurd.

these movements. At any rate, if we trace the causes of these movements back to some place in the cortex, we shall nowhere discover an “ego” which has, as it were from the outside, intervened and insinuated itself into the chain of physiological causes. Almost two years ago the German weekly DIE ZEIT printed a discussion in the course of which Wolf Singer described the situation as follows:

In our experience we are given to ourselves as free mental beings. But the scientific way of looking at things leaves no space for a mental agent of the kind of a free will which, if it is to result in deeds, would in some inexplicable fashion need to interact with our nerve cells. (Singer 2000)

If that is the case, one wonders, however, whether the assumption that *I myself* am responsible for my actions isn’t at best an illusion. Doesn’t this show that all our actions are completely determined by biological factors, and that properly speaking *we ourselves* have absolutely nothing to do with our actions – at least nothing with the origin of our actions?

It seems to me that this conclusion rests on a fundamentally Cartesian conception of the self; anyhow, this appears to be the conception of many people in whose opinion this conclusion is the correct one. The way Descartes figured it, voluntary action arises as follows: Our sense organs apprise us of the present state of our environment by generating, via certain nerve tracts, a picture of the environment in our brain or, more exactly, on the pineal gland. Our mind, our immaterial self, is in a position to inspect these pictures. It considers what to do, and after having taken a decision – for instance, the decision to raise the left arm –, it will in its turn cause a movement of the pineal gland. Using slightly (but only slightly) anachronistic terms, one might say that this movement has the effect of transmitting, via certain efferent nerves, a signal to muscles in the left arm. And this signal will ultimately lead to a raising of that arm. Basically, we are here dealing with a picture of a self which is busy playing the role of an operator working in a central control station. This operator monitors screens and indicator lights that inform him of what happens outside the central control station. If necessary he pushes the relevant buttons to influence events in accordance with his preferences.

That this conception founders on problems of causal interaction between mind and body is known since Descartes’ own days. The first question which poses itself is how a mind could be able to have causal effects in a world of bodies. How can something immaterial have physical effects? Second, the physical world is, as far as we know, a causally closed world. That is, every physical event has, if it has any cause at all, a physical cause. And if that is the case, then there is in the physical world evidently no room for causal interventions on the part of a mind. Third,

could there be any way of reconciling interventions on the part of a mind with the laws of conservation? Nowadays, after more than 350 years, these and other problems involved in Cartesian dualism have been examined so thoroughly that in philosophy there are hardly any proponents of this position left. (Cf. Beckermann 2001, chapter 3). But what might a rational alternative look like?

The first step is that we shall have to bid goodbye to the notion that every human being's real self is a non-corporeal substance in its own right. This kind of self is a philosophical fabrication; in our everyday understanding of the world it simply plays no role. In ordinary language the noun "self" hardly exists; and the noun "ego" (which might be used in combination with a definite or indefinite article, with personal and possessive pronouns) is certainly unknown to speakers of the vernacular. Persons exist – but there are no such dubious entities as selves or egos. And persons are living beings with physical as well as mental properties: on the one hand, they have the capacities to move, eat and grow; on the other, they have the capacities to perceive and feel, and they can deliberate and decide. If John goes for a walk and is lost in thought while walking, it is not the case that on the one hand there is John's body, which does the walking, while on the other there is his mind doing the thinking. No, it is one and the same person, John, who does both the walking and the thinking.

2.

Well, but what does it mean to say that now and again John performs voluntary actions for which he is responsible unless it means that such actions are caused by his self or ego? In one respect there is general agreement: an action for which John can be held responsible is such only if John's performing the action has been free in the sense of his not being constrained to perform it. If John is locked into a room, or if he is forced by threatening him with a gun to open a strongbox, then he certainly *does* something (or he refrains from doing something). But at the same it is obvious that he does not do it voluntarily; he evidently cannot be held accountable for what he has done or refrained from doing. If he opens the strongbox or does not leave the room, he does not act of his own free will. Free action presupposes that John *can* do what he *wants* to do. To put it in general terms, an action of a person is free if and only if he is not constrained in such a way that he cannot do what he wants to do.

Hume is one of those philosophers who have urged that this is the only kind of freedom we possess. At the same time he maintains that it is the only kind that could be of interest for us.

For what is meant by liberty, when applied to voluntary actions? We cannot surely mean, that actions have so little connexion with motives, inclinations, and circumstances, that one does not follow with a certain degree of uniformity from the other, and that one affords no inference by which we can conclude the existence of the other. For these are plain and acknowledged matters of fact. By liberty, then, we can only mean *a power of acting or not acting, according to the determinations of the will*; that is, if we choose to remain at rest, we may; if we choose to move, we also may. Now this hypothetical liberty is universally allowed to belong to every one, who is not a prisoner and in chains. (Hume 1975, 95)

But the difficulties of this conception are obvious. Isn't it the case that even some addicted people do what they want to do? And shouldn't we none the less say that such an addict is not free in what he is doing? The point is that while an addict can do what he wants to do – that is that his actions are free – his will is not free. His addiction prevents him from making a free choice. In other words, what he is lacking is *free will*. If free action consists in being able to do what one wants to do, what does this sort of free will consist in?

In his book *Ethics* George Edward Moore indicates that to this question one may give basically the same answer as to the question “What is free action?”. Moore says:

If by saying that we *could* have done, what we did not do, we often mean merely that we *should* have done it, *if* we had chose to do it, by saying that we *could* have *chosen* to do it, we may mean merely that we *should* have so chosen, *if* we had chosen to *make the choice*. (Moore 1996, 113 f.)

Just as we are free in our actions if we can do what we want to do, so we should have a free will if we could will to do what we want to will. That may sound paradoxical; but as regards the problem of our addict it seems to fit the case. It is possible for the addict not to take drugs if he does not want to. But apparently this is what he cannot do. He is not able to will to go without drugs. At any rate, he does not manage to make this sort of will influence his actions. Even if the harm done by drugs is clear to him, and even if for that reason he would love to choose to go without drugs, he is not able to do so. His desire to take drugs prevails. This is so even if our addict wanted it to be otherwise. He does not manage to get this desire under control.

Moore's answer lies at the bottom of Harry Frankfurt's well-known theory (see especially Frankfurt 1982), according to which free will con-

sists in being able to frame second-order desires, that is, desires to the effect that certain first-order desires should determine our actions. It is quite possible for me to have two conflicting desires. Thus I may wish to stay in bed and have a nap while at the same time I want to get up and take part in a faculty meeting. That I can become a being with a free will and a fully-fledged person is, according to Frankfurt, due to the fact that in addition to those first-order wishes I can frame second-order desires. As I am a fairly conscientious man, it may be that in the situation described I also want that, of the two desires mentioned, not the former but the latter will influence my actions. In that case I should have a second-order desire to the effect that the prevailing first-order desire will be my desire to take part in the faculty meeting, that is, I should have the second-order desire to act in accordance with this first-order wish.

In the terms of this conception, free will is given if and only if, on the first level, my actions are determined by those desires which, on the second level, I want to be the prevailing ones. Our addict is a person who lacks this kind of free will. For even if, on the second level, he intensely wants his desire for drugs not to influence his actions, this latter desire will none the less gain the upper hand. His desire for drugs will determine his actions even if he does not want this to be so.

But even this *prima facie* very attractive position is confronted by certain problems. Of course, what immediately strikes one is the question "What about these second-order desires?". After all, on the second level, the problem of free will poses itself in the same form as on the first level. Just think of people who have been brain-washed or subjected to other forms of indoctrination. It is quite possible that after this sort of treatment people will act in such a way that their first-order desires are in complete agreement with their second-order desires. But we should no doubt find it problematic to describe these people as free and responsible. Thus Frankfurt's original theory faces a regress problem. On every new level the question of free will poses itself again and again. It can be answered only if we assume that n -order desires agree with $n+1$ -order desires which, in their turn, agree with $n+2$ -order desires, and so on and so forth. Is it possible to break out of this regress?

Gary Watson is one of those philosophers who have claimed that there is a crucial aspect which Frankfurt has failed to take into account (Watson 1982). This is the aspect of evaluation and moral judgement. I for my part think that this is exactly the point where the solution to our problem is to be found. It seems that decision theory wants us to believe that, at least in the case of decisions under risk, it is rational to perform the action with maximum expected utility. If this were the case, then in every situation in which a decision has to be taken every rational agent would have

to consider the following questions: (1) What are my real preferences? (2) How likely is it that the actions available to me will lead to the envisaged results? (3) In view of these facts, which action has maximum expected utility?

In reality, however, things tend to work out in an entirely different way. If I face the choice between staying in bed and having a nap, on the one hand, and getting up and taking part in the faculty meeting, on the other, *I* at any rate do not mull over the question which of these two courses of action promises maximum expected utility. I for my part should wonder what, under these circumstances, would be the right thing to do: What kind of action is the one I ought to perform under these circumstances? The decisive factor is my moral judgement. If I arrive at the view that it is my duty to take part in the faculty meeting, I shall get up. If, however, I come to the conclusion that today my presence is not all that important and that for this reason it is permissible to lie in for an extra hour, I shall stay in bed. At any rate, that is the way it ought to be.

This consideration throws new light on the problem of free will. For the real weakness of our addict consists in the fact that considerations of morality and prudence have no influence over his decisions and actions. It makes no difference if he sees that his desire for drugs is wrong and that his addiction will ruin his health. No such insight will have the effect that his desire for drugs will fail to influence his actions. Thus free will seems to be crucially dependent on whether considerations of morality and prudence can be brought to bear on an agent's desires – and these considerations concern the question which desires *ought to* determine our actions.

The significance of considerations of morality and prudence becomes clearer if we compare the attitude we take towards ourselves and our fellowmen with our attitude to animals. It's not as if we did not judge the behaviour of animals. If a dog does not quit barking, we shout "Shut up!" and perhaps we even give it a smack to make it stop. If it obeys our command "Sit!" and it sits down, we shall say "Good dog!" to make it plain to it that it did what we expected. In addition, we reward and punish animals to make them behave the way we want them to behave. But we should never hit on the idea to address a dog with words like these: "Look, it's morally wrong to chase bunnies, so please refrain from running after them." And the following attempt, too, would obviously be out of place: "Look, doggie, if you keep going after the postman, we shall have to move you to that nasty animal home. So it is to your own disadvantage if you don't call it a day."

The matter is different if we turn to our fellowmen. To be sure, even here we often react by rewarding or punishing them. But equally fre-

quently it happens that we use a different strategy, for instance in trying to bring up our children. Thus we attempt to guide the conduct of others by telling them that what they have done is open to moral censure or detrimental to their own well-considered self-interest. In other words, the case of our fellowmen differs from that of animals in the following way: In contrast with the behaviour of animals, the conduct of human beings can be guided (among other possibilities) by *reasoning* with them. This sort of attempt is a potential way of modifying their attitudes and decisions. The fact that it is possible to influence a person's conduct by this kind of reasoning and argument is a central symptom showing that he is free and responsible. Evidently free will has a lot to do with the fact that our will can be guided by considerations of morality and prudence.

But doesn't that mean that we are back at our starting-point? For now of course there looms the question how moral judgements and moral reasoning can possibly influence our conduct if this conduct is completely determined by biological factors.

3.

Sir Karl Popper belongs to those philosophers who have been particularly preoccupied by this problem. In the second of his lectures to the memory of Arthur Holly Compton entitled "Of Clouds and Clocks" Popper says:

Compton describes [...] what I shall call the '*nightmare of the physical determinist*'. A deterministic physical clockwork mechanism is, above all, completely self-contained: in the perfect deterministic physical world there is simply no room for any outside intervention. Everything that happens in such a world is physically predetermined, including all our movements and therefore all our actions. Thus all our thoughts, feelings, and efforts can have no practical influence upon what happens in the physical world: they are, if not mere illusions, at best superfluous by-products ('epiphenomena') of physical events. (Popper 1972, 217)

In other words, if we assume that all our actions are physically – or biologically – determined, then according to Popper we at the same time claim that our actions cannot be determined by thoughts, feelings, and arguments. For physical, or biological, determinism implies that there are no non-physical, or non-biological, causes; and, as Popper goes on to say, this means that phenomena residing outside a system cannot have any kind of causal influence on what happens within the system.

However, as Popper sees it, determinism is untenable; for in his opinion every determinist has fallen into a trap of his own making. If the determinist is right, then this shows that his belief in the truth of determin-

ism does not rest on any kind of reasoning. After all, the truth of determinism entails that, as far as causality is concerned, arguments are completely irrelevant to what we believe and do. Popper says that,

[...] according to determinism, any theories – such as, say, determinism – are held because of a certain physical structure of the holder (perhaps of his brain). Accordingly we are deceiving ourselves (and are physically so determined as to deceive ourselves) whenever we believe that there are such things as arguments or reasons which make us accept determinism. Or in other words, physical determinism is a theory which, if it is true, is not arguable, since it must explain all our reactions, including what appear to us as beliefs based on arguments, as due to *purely physical conditions*. (Popper 1972, 223)

It is plainly visible, however, that one premise of this argument is the following: Just like a Cartesian, Popper takes it for granted that thoughts, feelings, and arguments are something non-physical or non-biological. To this extent Popper clings to the Cartesian world-view. And the question is whether this way of seeing the world is as natural as he assumes.

Now, Popper makes the Fregean assumption (Frege 1918) that, on the one hand, thoughts and arguments differ from physical objects in not being something sensory, nor something material. On the other hand, however, they are also said to differ from feelings and images, in that thoughts and arguments are not subjective but objective. This consideration leads Frege to postulate a third realm, and in a similar way Popper is led to postulate a third world whose denizens are supposed to be theories, arguments, theorems, etc. This, however, need not concern us here. For there is another respect in which Popper and Frege are in complete agreement: the denizens of the third world cannot of their own accord have causal effects. For them to be able to influence the first world, i.e. the material world, they need to be grasped or discovered or thought by human beings. Thus we need not ask how thoughts and arguments can have causal effects in a physical world; rather, the question is “How is it possible for beliefs and deliberations to cause changes in the sphere of physical events?”² For an anti-Cartesian naturalist the answer to this question is a simple one. According to him, beliefs and considerations can effect causal changes in the sphere of physical events for the elementary reason that they themselves are something physical or biological. But how is it possible to render this claim plausible?

Here too the important point is to liberate oneself from the grip of Cartesian images. A Cartesian’s notion of consciousness is the idea of a kind

² Cf. the following passage: „[...] what we want is to understand how such non-physical things as *purposes, deliberations, plans, decisions, theories, intentions*, and *values* can play a part in bringing about physical changes in a physical world” (Popper 1972, 229).

of internal theatre. The stage of this theatre is alive with thoughts, feelings and impressions of perception. According to Cartesians, reasoning is nothing but an inner process taking place on that stage. This image of an internal stage has been shrewdly criticized by Gilbert Ryle (Ryle 1949). To have a mind does not mean that inside a person there happen things with which only the person in question is acquainted. What it means is that this person has certain abilities and dispositions which reveal themselves in his conduct. Ryle's vantage-point is a conception of mind which nowadays is quite generally accepted.³ There are no mental objects like thoughts or feelings. And mental processes are not mysterious phenomena within a mysterious inner world; rather, the mental life of persons consists in their possessing certain (mental) properties that evolve and change in the course of mental processes. Even if a given human being has a determinate belief, this only means that this human being as a biological organism has a certain property – namely, the property of believing that such and such is the case.

If one sees it that way, namely as an anti-Cartesian naturalist, then the situation is the following. One will have to claim that mental properties such as the having of certain beliefs are quite normal physical or biological properties, just as the hardness of a brick is a completely normal physical property and the capacity to procreate is an entirely normal biological property. At this point I do not want to deal with any arguments that have been put forward for or against this conception.⁴ What I regard as important at this point, however, is to indicate what the dialectical situation is which we have before us.

A Cartesian would claim that human beings can count as free and responsible for their actions only if these actions are caused by an immaterial self with the capacity directly to intervene in brain processes. According to this conception, there could not exist such a thing as freedom if it turned out that a complete neurobiological explanation of our actions is possible.

To this Cartesian view one may object that it involves an idea of freedom which rests on extremely implausible metaphysical assumptions. In this sense one may want to protest that human beings aren't immaterial selves; they are biological beings. And as such beings they are free and accountable for their actions if and only if these actions spring from desires that can be guided by moral judgements and moral reasoning.

³ Of course there are considerable differences between Ryle and what for once I should here like to call the philosophical mainstream. Chiefly these differences concern the question of the causal character of mental explanations.

⁴ These arguments are discussed at length in (Beckermann 2001)

For Popperians, however, who hold that thoughts, judgements and arguments are non-physical entities, this notion of freedom, too, is incompatible with the idea of a general biological determinism. Thus for a Popperian there couldn't be such a thing as freedom if a complete neurobiological explanation of our actions proved possible.

Naturalists are the only participants in this dispute to whom matters look different. In their view, mental properties are a kind of physical or biological properties. From a naturalistic perspective, the assumption that our actions are completely determined by neurobiological factors is, therefore, entirely compatible with the assumption that rational control of our actions is possible. For this reason the naturalist is the only one who need not feel apprehensive about the results of the empirical sciences. He is the only one for whom it makes no difference to our self-image and our conception of freedom if it turned out that a complete explanation of our behaviour by neurobiological means is possible.

To put it another way, there is overwhelming empirical evidence for the view that our actions can, at least in some cases, be directed by rational considerations and arguments. At the same time there is overwhelming empirical evidence for the assumption that all our actions are purely biologically determined. However, only if naturalism is right both views can be true.

4.

But doesn't this kind of naturalism lead by a straight route from Scylla to Charybdis? If the having of reasons is a biological property; if processes of deliberation are realized by way of neural processes; and if all biological processes have sufficient biological causes: then the exact nature of the reasoning in my mind as well as the actions which result from this sort of reasoning appear to be completely determined by *biological* factors. Yet how is it possible to hold *me* accountable for something which has not been determined by myself but by exactly these biological factors?

What lies behind this question is the previously mentioned image of a self playing the role of an operator working in a central control station – only that this time the image is conceived even more radically. In the case of Descartes matters looked as follows. There is a self which looks at sensory input; it deliberates *in view of his desires and values* what action to perform and then pushes the relevant buttons, that is, causes certain movements of the pineal gland. Now, however, we are dealing with the image of an operator who monitors his *deliberations* in the same way the

Cartesian ego monitors his actions. Philosophers whose ideas have been moulded by this image seem to hold the following view: Well, it may be possible that we are accountable for exactly those actions that originate in desires which are dirigible by certain thoughts. This, however, can evidently be so only if *we ourselves are masters* of these thoughts. And that implies, among other things, that those thoughts are not determined by biological or other kinds of factors but *by ourselves*. However, what on earth could it mean to say that I am master of my own thoughts? Is it really possible to elucidate this idea in terms of the image of an operator working in a central control station? And what would such an elucidation look like?

Probably it would look as follows: This time our operator is sitting at a table on which there are arranged a large number of boxes in which he has collected reasons for various kinds of action. Now he wonders, "Should I do action A, or shouldn't I?", and to answer this question he picks out all relevant reasons from his various boxes. At the end of the day he has a final look to see if he has failed to spot any reason, and after that he puts all relevant reasons on the table, he carefully weighs them and then reaches a decision.

This picture, however, is not only a strange one; it is incoherent. What's going on inside our operator on an occasion of this type? Does what he is doing rest on considerations of his? Or does he proceed blindly, as it were, in picking out reasons from his various boxes until he finally – and, of course, blindly again – reaches a decision? In the former case we obviously face a regress problem; and in the latter case one may certainly wonder how a person can be held accountable for a weighing of reasons which is performed blindly and absolutely unthinkingly. In other words, it simply makes no sense to form a conception of deliberation on the model of an operator working in a central control station. Such an operator *either* deliberates on how to decide in view of the reasons available to him – and in that case we need another operator and another control centre, and so on and so forth, to carry out this deliberation –, *or* he proceeds blindly, i.e. unthinkingly. In this latter case he in a certain sense is master of what is going on but surely not in a sense relevant to our idea of an accountable person.

Let's ask again where to locate the real problems in this case. It is obvious that our freedom and responsibility would be threatened if our deliberations were manipulated or if our role in the process of deliberating were that of mere puppets. What many philosophers seem to have in mind here is the picture of a fiendish neurobiologist directly manipulating the brain of a person in such a way as to generate his desires, beliefs and decisions.

But this is not the kind of situation which we have before us. Here there is no one to intervene in a direct way in our deliberations. Here there is no one to manipulate us. The situation is such that mother nature – or whoever – has supplied us with a brain in which certain neural processes take place. These processes serve to implement processes of rational deliberation; and processes of this latter kind respond to reasons and lead to what on the whole may be regarded as well-considered judgements. Furthermore, nature has seen to it that these judgements exert a powerful influence on our actions. Why should we feel threatened by *this* fact? Why should this fact undermine our freedom and our accountability? The taking place of a process of rational deliberation inside us is not a kind of manipulation – no more than we are manipulated by someone who presents the reasons in favour of a certain course of action with such compelling clarity that we have no choice but to follow his suggestion (Dennett 1984, 87).

Some philosophers seem to believe that I am master of my own deliberations only if these deliberations, while they are not (or cannot be) manipulated by other people, are (or can be) manipulated *by myself*. But as I have tried to show, this idea is incoherent; for the only way such a kind of manipulation could proceed would be an a-rational one. Moreover, there are some philosophers who seem to believe that I can be free only if *in the presence of the very same reasons* I could have acted otherwise. To me, however, this idea seems no less dubious than the previous one. What kind of interest could I have in this type of freedom? What I am concerned about is that my actions will be directed by my desires and deliberations, that what happens conforms to my wishes, and that I shan't be manipulated by others. But what I am not interested in is to manipulate my own desires and deliberations. (On what basis might that be possible? On the basis of other desires and deliberations?) Thus everything I am really concerned about is compatible with the possibility of complete biological determination of the desires I have and the deliberations I elaborate.

But now we have to address our last question: What makes these deliberations *my* deliberations? The correct answer to this question has in my view been given by Fischer and Ravizza. There is a whole series of papers in which John Martin Fischer has, partly in collaboration with Mark Ravizza, put forward a theory to which my own considerations in many respects are quite congenial. Central to this theory is the idea that moral responsibility rests on guidance control. Guidance control is given if the action in question is caused by a mechanism which is sensitive to reasons – a mechanism whose output is dependent on what reasons there are for or against the performance of an action or on what reasons for or against

the performance of an action are known to the agent concerned. But that by itself is not sufficient. In addition, guidance control presupposes that the agent will *adopt* this mechanism, that he will *take responsibility for this mechanism*. This may come about through explicit philosophical reflection, but it may just as well be the result of a more natural process.

In growing up a child will be brought up by his parents (and other people), and this involves moral issues. Teachers respond to what the child does, and in doing so their aim is, among other things, that the child develops a certain kind of self-image. Partly because of this process the child comes to conceive of himself as an agent. Moreover, he learns that his environment will respond to his actions in quite specific ways – by praise or reproof, punishment or reward, approval or resentment. Learning to regard these responses as legitimate amounts to taking responsibility. More exactly:

[...] it is in virtue of acquiring these views that the child takes responsibility for *certain kinds of mechanisms*: practical reasoning, nonreflective habits, and so forth. Ordinarily, people would not characterize a child's taking responsibility in exactly this way, but this theoretical characterization gives more precise expression to the idea that the child takes responsibility for actions that spring from certain sources (and not from others). (Fischer and Ravizza 1998, 241 f.)

What may also happen is that in moments of quiet reflection a person wonders whether it is really legitimate that he himself is the object of moral responses from other people. Perhaps he will wonder whether the doctrine of causal determinism is true and whether this might mean that he himself cannot be held responsible for anything. But even in situations of this type one may hit on considerations ultimately leading to acceptance of the legitimacy of the moral responses of others. And that, too, would mean taking responsibility – this time on the basis of detailed reflection.

Of course, these formulations must not be taken to mean that here there is a self or a personal nucleus – or whatever people may imagine when they think of an ego –, a self at any rate which observes certain mechanisms and then reaches a decision that might be put by saying “This is a mechanism I shall adopt, that one I shan't adopt”. Rather, what this process of adoption amounts to is that a person as a whole develops certain attitudes and dispositions. It is an undisputable fact that some beings are capable of reflecting upon their own actions and even upon the mechanisms leading up to those actions. But that certainly does not mean that *inside* these beings there is to be found a something – the being itself, as it were – standing beside those actions and mechanisms to keep them under surveillance. That would be the picture of an operator in his central

control station. We shall arrive at a solution of the problem of free will only if we manage definitively to rid ourselves of this picture – the picture of the Ghost in the Machine.

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